

No.

200000289



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

DEKALB Genetics Corporation

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN, FIELD

'86ISI27'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this second day of May, in the year two thousand two.

Attest:

Alm J. [Signature]

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

[Signature]

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICEAPPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER DEKALB Genetics Corporation		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME		3. VARIETY NAME 86ISI27	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 3100 Sycamore Road DeKalb, IL 60115		5. TELEPHONE (include area code) (815) 758-9281		FOR OFFICIAL USE ONLY	
		6. FAX (include area code) (815) 758-3117		PVPO NUMBER 00000289	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Corporation		8. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware		9. DATE OF INCORPORATION June 15, 1988	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)		11. TELEPHONE (include area code) (815) 758-9281		12. FAX (include area code) (815) 758-3117	
Timothy R. Kain DEKALB Genetics Corporation 3100 Sycamore Road DeKalb, IL 60115		Donald Traut DEKALB Genetics Corporation 3100 Sycamore Road DeKalb, IL 60115		MICHAEL J. ROTH DEKALB Genetics Corporation 3100 Sycamore Road DeKalb, IL 60115	
13. E_MAIL tkain@dekalb.com		14. CROP KIND (Common Name) Corn		FILING AND EXAMINATION FEES: \$ 2,450.00 DATE 6/8/00 CERTIFICATION FEE: \$ 320.00 DATE 4/5/02	
15. GENUS AND SPECIES NAME OF CROP Zea mays		16. FAMILY NAME (Botanical) Gramineae		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)		19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?	
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety		<input type="checkbox"/> YES (If "yes", answer items 20 and 21 below)		<input checked="" type="checkbox"/> NO (If "no," go to item 22)	
b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness		21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?		<input type="checkbox"/> YES <input type="checkbox"/> NO	
c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety		<input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED			
d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional)		22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?		23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)?	
e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership		<input checked="" type="checkbox"/> YES U.S. February 2000 <input type="checkbox"/> NO		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)		IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	
g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.			
The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.		Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF OWNER Timothy R. Kain		SIGNATURE OF OWNER			
NAME (Please print or type) Timothy R. Kain		NAME (Please print or type)			
CAPACITY OR TITLE Patent Scientist		DATE 6/6/00		CAPACITY OR TITLE DATE	

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,450 (\$300 filing fee and \$2,150 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$300 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvp.htm>

ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant MAY NOT reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See *Regulations and Rules of Practice, Section 97.103*).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

A hybrid produced from this variety was first sold in the United States - February 2000

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, AG Box 7630, Jamie L. Whitten Building, Washington, D.C. 20250. When replying, refer to OMB No. 0581-0055 and form number in your letter. Under the PRA of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

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S&T-470 (6-98) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (03-96) which is obsolete.

EXHIBIT AOrigin and Breeding History
86ISI27

86ISI27 was selected for greater combining ability, improved stalk and root strength and testweight.

Summer 1988	The inbred line IBC15* (a proprietary DEKALB Genetics Corporation inbred) was crossed to inbred line 3IBZ2 (a proprietary DEKALB Genetics Corporation inbred) (nursery book row numbers 111-34 and 111-35).
Winter 1988-89	S0 seed was grown and self-pollinated (nursery book row number 67-57).
Summer 1989	S1 seed was grown and self-pollinated (nursery book row numbers 101-7 to 101-18).
Winter 1989-90	S2 seed was grown ear to row and self pollinated (nursery book row numbers 747-13 to 747-89).
Summer 1990	S3 seed was grown ear to row and self pollinated (nursery book rows 107-65 to 107-66).
Summer 1991	S4 seed was grown ear to row and self pollinated (nursery book row 142-1).
Summer 1992	S5 seed was grown ear to row and self pollinated (nursery book row 217-37).
Summer 1993	S6 seed was grown as a bulk from S5 row 217-37 and self pollinated (nursery book row 162-11).
Summer 1994	S7 seed was grown as a bulk from S6 row 162-11 and self pollinated (nursery book row 232-79)
Winter 1994-95	S8 seed was grown ear to row from S7 row 162-11 (nursery book rows 2CC-31 to 2CC-35. Seed from rows 2CC-31 to 35 was bulked and given the designation 86ISI27.

* - The line 'IBC15' is descended from the public line MO17.

Statement of Stability and Uniformity

Corn inbred 86ISI27 was coded in 1994 and has been reproduced by self pollination for the past three years and judged to be stable. Inbred 86ISI27 is uniform for all traits observed.

Statement of Variants

86ISI27 shows no variants other than what would normally be expected due to environment or that would occur for almost any character during the course of repeated sexual reproduction.

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EXHIBIT BStatement of Distinctness

DEKALB Genetics Corporation believes that 86IS127 is most similar to corn inbred 31BZ2, an inbred developed by DEKALB Genetics Corporation.

86IS127 and 31BZ2 differ most significantly in the following traits:

Qualitative Traits:

Trait	86IS127	31BZ2
Cob Color	Red 5 R 3/8	White Lighter than 5 Y 9/1

Quantitative Traits:

Trait	86IS127	31BZ2	Difference	Pvalue
GDU's to 50% Shed	1331.6	1251.7	79.9	0.00**
GDU's to 50% Silk	1339.5	1242.2	97.3	0.00**

Significance level: ** = 1%

OBJECTIVE DESCRIPTION OF VARIETY
CORN (*Zea mays* L.)

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Application Variety Data				Page 2	Standard Inbred Data					
5. LEAF:				Standard Deviation	Sample Size	Standard Deviation Sample Size				
*	0	0	8. 5 cm Width of Ear Node Leaf	0.141	40	0	0	8. 9	0.419	120
*	0	6	3. 2 cm Length of Ear Node Leaf	0.636	40	0	6	4. 2	3.944	120
*			5. 8 Number of leaves above top ear	0.283	20	5.	4		0.392	50
	2		7. 8 degrees Leaf Angle (measure from 2nd leaf above ear at anthesis to stalk above leaf)	1.061	40	2	8.	5	8.313	100
*	0	3	Leaf Color (Munsell code 5 GY 3/4)			0	3	(Munsell code 5 GY ¾)		
		2	Leaf Sheath Pubescence(Rate on scale from 1=none to 9=peach fuzz)			1				
		3	Marginal Waves (Rate on scale from 1=none to 9=many)			5				
		4	Longitudinal Creases (Rate on scale from 1=none to 9=many)			8				
6. TASSEL:				Standard Deviation	Sample Size	Standard Deviation Sample Size				
*	0	6.	8 Number of Primary Lateral Branches	1.061	40	8.	4		1.804	120
	1	7.	0 Branch Angle from Central Spike	7.071	40	2	8.	4	3.766	100
*	3	2.	2 cm Tassel Length (from top leaf collar to tassel tip)	1.697	40	3	6.	1	4.928	120
		3.	8 Pollen Shed (Rate on scale from 0=male sterile to 9=heavy shed)			4.	8			
	1	4	Anther Color (Munsell code 2.5 R 5/8)			0	5	(Munsell code 2.5 GY 8/6)		
	1	7	Glume Color (Munsell code 5 RP 5/8)			0	2	(Munsell code 5 GY 4/8)		
		2	Bar Glumes (Glume Bands): 1=Absent 2=Present			1				
7a. EAR (Unhusked Data):						0 5 (Munsell code 2.5 GY 8/6)				
*	1	4	Silk Color (3 days after emergence) (Munsell code 2.5 R 5/8)			0 2 (Munsell code 5 GY 4/8)				
	0	2	Fresh Husk Color (25 days after 50% silking) (Munsell code 5 GY 4/8)			2 1 (Munsell code 2.5 Y 8/4)				
	2	1	Dry Husk Color (65 days after 50% Silking) (Munsell code 2.5 Y 8/4)			1				
*		1	Position of Ear at Dry Husk Stage: 1=Upright 2=Horizontal 3=Pendent			6				
		3	Husk Tightness (Rate on scale from 1=very loose to 9=very tight)			1				
		1	Husk Extension (at harvest): 1=Short (ears exposed) 2=Medium (<8 cm) 3=Long (8-10 cm beyond ear tip) 4=Very Long (>10 cm)							
7b. EAR (Husked Ear Data):				Standard Deviation	Sample Size	Standard Deviation Sample Size				
*	1	1.	4 cm Ear Length	1.697	20	1	3.	9	1.111	60
*	3	9.	3 mm Ear Diameter at mid-point	0.424	20	4	4.	3	1.874	60
	8	0.	0 gm Ear Weight	14.920	40	0	9	3.	1	12.002
*	1	6.	8 Number of Kernel Rows	1.131	20	1	5		0.575	60
		2	Kernel Rows: 1=Indistinct 2=Distinct			2				
		2	Row Alignment: 1=Straight 2=Slightly Curved 3=Spiral			1				
		8.	5 cm Shank Length	1.061	40	1	3.	0	0.937	120
		2	Ear Taper: 1=Slight 2=Average 3=Extreme			2				
Application Variety Data				Standard Inbred Data						
Note: Use chart on first page to choose color codes for color traits.										

Application Variety Data			Page 3		Standard Inbred Data		
8. KERNEL (Dried):			Standard Deviation	Sample Size	Standard Deviation Sample Size		
1	0.5 mm Kernel Length		0.141	20	1	0.6	0.983 60
0	6.6 mm Kernel Width		0.283	20	0	8.2	0.754 60
0	3.5 mm Kernel Thickness		0.141	20	0	3.9	0.438 60
1	7.9 % Round Kernels (Shape Grade)			500g	3	7.7	500g
1 Aleurone Color Pattern: 1=Homozygous 2=Segregating					1		
(*)	1 9 Aleurone Color (Munsell code Lighter than 2.5 Y 9/2)				1 9 (Munsell code Lighter Than 2.5 Y 9/2)		
*	0 7 Hard Endosperm Color (Munsell code 2.5 Y 8/10)				0 7 (Munsell code 2.5 Y 8/10)		
*	0 3 Endosperm Type: 1=Sweet (sul) 2=Extra Sweet (sh2) 3=Normal Starch 4=High Amylose Starch 5=Waxy Starch 6=High Protein 7=High Lysine 8=Super Sweet (se) 9=High Oil 10=Other				0 3		
2	1.1 gm Weight per 100 Kernels (unsized sample)	0.565		600 seeds	2	6.8	3.808 1200 seeds
9. COB:			Standard Deviation	Sample Size	Standard Deviation Sample Size		
*	2 0.6 mm Cob Diameter at mid-point		1.131	20	2	6.5	1.022 60
1	4 Cob Color (Munsell code 5 R 3/8)				1 9 (Munsell code Lighter Than 5 Y 9/1)		
10. DISEASE RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested; leave Race or Strain Options blank if polygenic):							
A. Leaf Blights, Wilts, and Local Infection Diseases							
6 Anthracnose Leaf Blight (<i>Colletotrichum graminicola</i>)				7			
_ Common Rust (<i>Puccinia sorghi</i>)				_			
_ Common Smut (<i>Ustilago maydis</i>)				6			
6 Eyespot (<i>Kabatiella zeae</i>)				6			
7 Goss's Wilt (<i>Clavibacter michiganense</i> spp. <i>nebraskense</i>)				4			
3 Gray Leaf Spot (<i>Cercospora zeae-maydis</i>)				9 Race 2			
5 Helminthosporium Leaf Spot (<i>Bipolaris zeicola</i>) Race 2				4 Race 2			
4 Northern Leaf Blight (<i>Exserohilum turcicum</i>) Race 2				7 Race 0			
6 Southern Leaf Blight (<i>Bipolaris maydis</i>) Race 0				_			
_ Southern Rust (<i>Puccinia polysora</i>)				_			
6 Stewart's Wilt (<i>Erwinia stewartii</i>)				_			
_ Other (Specify) _____				_			
B. Systemic Diseases							
4 Corn Lethal Necrosis (MCMV and MDMV)				4			
_ Head Smut (<i>Sphacelotheca reiliana</i>)				7			
_ Maize Chlorotic Dwarf Virus (MCDV)				_			
_ Maize Chlorotic Mottle Virus (MCMV)				_			
_ Maize Dwarf Mosaic Virus (MDMV) Strain _____				_ Strain _____			
_ Sorghum Downy Mildew of Corn (<i>Peronosclerospora sorghi</i>)				_			
_ Other (Specify) _____				_			
C. Stalk Rots							
_ Anthracnose Stalk Rot (<i>Colletotrichum graminicola</i>)				_			
_ Diplodia Stalk Rot (<i>Stenocarpella maydis</i>)				_			
_ Fusarium Stalk Rot (<i>Fusarium moniliforme</i>)				_			
_ Gibberella Stalk Rot (<i>Gibberella zeae</i>)				_			
_ Other (Specify) _____				_			
D. Ear and Kernel Rots							
_ Aspergillus Ear and Kernel Rot (<i>Aspergillus flavus</i>)				_			
_ Diplodia Ear Rot (<i>Stenocarpella maydis</i>)				_			
_ Fusarium Ear and Kernel Rot (<i>Fusarium moniliforme</i>)				_			
_ Gibberella Ear Rot (<i>Gibberella zeae</i>)				_			
_ Other (Specify) _____				_			
Application Variety Data					Standard Inbred Data		
Note: Use chart on first page to choose color codes for color traits.							

Application Variety Data		Page 4	Standard Inbred Data		
11. INSECT RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant); leave blank if not tested):					
	Standard Deviation	Sample Size		Standard Deviation	Sample Size
- Banks Grass Mite (<i>Oligonychus pratensis</i>)			-		
- Corn Earworm (<i>Helicoverpa zea</i>)			-		
- Leaf-Feeding			-		
- Silk Feeding :			-		
- Ear Damage			-		
- Corn Leaf Aphid (<i>Rhopalosiphum maidis</i>)			-		
- Corn Sap Beetle (<i>Carpophilus dimidiatus</i>)			-		
- European Corn Borer (<i>Ostrinia nubilalis</i>)			-		
6 1st Generation (Typically Whorl Leaf Feeding)			7		
4 2nd Generation (Typically Leaf Sheath-Collar Feeding)			5		
- Stalk Tunneling :			-		
- cm tunneled/plant			-		
- Fall Armyworm (<i>Spodoptera frugiperda</i>)			-		
- Leaf-Feeding			-		
- Silk-Feeding :			-		
- mg larval wt.			-		
- Maize Weevil (<i>Sitophilus zeamais</i>)			-		
- Northern Rootworm (<i>Diabrotica barberi</i>)			-		
- Southern Rootworm (<i>Diabrotica undecimpunctata</i>)			-		
- Southwestern Corn Borer (<i>Diatraea grandiosella</i>)			-		
- Leaf Feeding			-		
- Stalk Tunneling :			-		
- cm tunneled/plant			-		
- Two-spotted Spider Mite (<i>Tetranychus urticae</i>)			-		
- Western Rootworm (<i>Diabrotica virgifera virgifera</i>)			-		
- Other (Specify)			-		
12. AGRONOMIC TRAITS:					
6 Stay Green (at 65 days after anthesis) (Rate on a scale from 1=worst to 9=excellent.)			2		
0 2. 6 % Dropped Ears (at 65 days after anthesis)			0 0. 0		
0 0. 0 % Pre-anthesis Brittle Snapping			0 0. 0		
0 0. 0 % Pre-anthesis Root Lodging			0 0. 0		
0 0. 4 % Post-anthesis Root Lodging (at 65 days after anthesis)			0 3. 2		
3 6 8 1. 9 Kg/ha Yield of Inbred Per Se (at 12-13% grain moisture)			2 6 6 3. 7		
13. MOLECULAR MARKERS: (0=data unavailable; 1=data available but not supplied; 2=data supplied)					
1 Isozymes 1 RFLP's 0 RAPD's					
REFERENCES:					
Butler, D.R. 1954. A System for the Classification of Corn Inbred Lines. PhD Thesis, Ohio State University.					
Emerson, R.A., G.W. Beadle, and A.C. Fraser. 1935. A Summary of Linkage Studies in Maize. Cornell A.E.S., Mem. 180.					
Farr, D.F., G.F. Bills, G.P. Chamuris, A.Y. Rossman. 1989. Fungi on Plant and Plant Products in the United States. The American Phytopathological Society, St. Paul, MN.					
Inglett, G.E. (Ed.) 1970. Corn: Culture, Processing, Products. Avi Publishing Company, Westport, CT.					
Jugenheimer, R.W. 1976. Corn: Improvement, Seed Production, and Uses. John Wiley & Sons, New York.					
McGee, D.C. 1988. Maize Diseases. APS Press, St. Paul, MN. 150 pp.					
Munsell Color Chart for Plant Tissues. Macbeth. P.O. Box 230. Newburgh, N.Y. 12551-0230					
The Mutants of Maize. 1968. Crop Science Society of America. Madison, WI.					
Shurtleff, M.C. 1980. Compendium of Corn Diseases. APS Press, St. Paul, MN. 105 pp.					
Sprague, G.F., and J.W. Dudley (Editors). 1988. Corn and Corn Improvement, Third Edition. Agronomy Monograph 18. ASA, CSSA, SSSA, Madison, WI.					
Stringfield, G.H. Maize Inbred Lines of Ohio. Ohio A.E.S., Bul. 831. 1959.					
U.S. Department of Agriculture. 1936, 1937. Yearbook.					
COMMENTS (eg. state how heat units were calculated, standard inbred seed source, and/or where data was collected. Continue in Exhibit D):					
Heat Unit Calculation: $GDU = \frac{\text{Daily Max Temp } (<=86^{\circ}\text{F}) + \text{Daily Min Temp } (>=50^{\circ}\text{F})}{2} - 50^{\circ}\text{F}$					

There are large standard deviations for the following specific traits for '86ISI27': Plant height, tassel branch angle and ear weight. Also, there are large standard deviations for the following specific traits for 'A619': length of ear node leaf, degree of leaf angle, # of primary lateral tassel branches, tassel length, ear weight, plant height and kernel weight. An explanation is requested as to what may have contributed to the large variability in these traits.

- Data collected for '86ISI27' occurred at 2 test locations over two years for a total sample size of 40 plants measured. Data was reported as means across years and locations. Data collected for 'A619' also was reported as mean values across years and locations (3 years - 3 locations). Each of the aforementioned characteristics had a wide range of values due to spacial and temporal variation of the test contributing to the large standard deviation. Growing conditions (soil, climate, drought conditions, etc.) contributed significantly to influence the variability of the traits measured.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

EXHIBIT E

STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S) DEKALB Genetics Corporation	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME 86ISI27
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 3100 Sycamore Road DeKalb, IL 60115 U.S.A.	5. TELEPHONE (include area code) (815) 758-9281	6. FAX (include area code) (815) 758-3117
	7. PVPO NUMBER 200000289	

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain. ☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or U.S. based company? ☒ YES ☐ NO
If no, give name of country

10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

☐ YES ☐ NO If no, give name of country

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (if needed, use reverse for extra space):

86ISI27 was originated and developed by a breeder employed by DEKALB Genetics Corporation. By agreement between DEKALB Genetics Corporation and the breeder, all rights to any invention, discovery, or development are assigned to DEKALB Genetics Corporation. No rights to such invention, discovery, or development are retained by the breeder.

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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